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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Petteri Annamaa

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EXAMINER

CHEN, SHIH CHAO

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action SummaryApplication No. **10/731,196**Applicant(s) **ANNAMAA ET AL.**Examiner **Shih-Chao Chen**Art Unit **2821**

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/8/03, 5/5/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because "Fig. 1" should be deleted. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-4 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Simmons et al. (U.S. Patent No. 6,031,495).

Regarding claim 1, Simmons et al. teaches in figures 2-4 an antenna [26] for a foldable radio device, which comprises a ground plane [36], the antenna having at least one resonant frequency and at least one operation band, outline of a radiating element [28, 30] (See col. 2, lines 47-57) of the antenna [26] forming a planar figure which has a certain width and length, wherein a plane defined by the outline is substantially perpendicular to the ground plane of the radio device (See FIG. 3-4), the width is smaller than internal height of the radio device (See Fig. 2) and the radiating element is coupled to the radio device only by its feed point [40].

Regarding claim 3, Simmons et al. teaches in figures 2-4 the antenna according to claim 1, the radiating element [28, 30] comprising at least one conductive strip on a surface of a circuit board [38].

Regarding claim 4, Simmons et al. teaches in figures 2-4 the antenna according to claim 3, the conductive strip [28, 30] making a meandering pattern (See col. 2, lines 47-57) such that the horizontal portions thereof are substantially equal to the whole radiating element in length.

Regarding claim 8, Simmons et al. teaches in figures 2-4 the antenna according to claim 1, the radiating element [28, 30] being a rigid conductive wire (See col. 2, lines 47-57).

Regarding claim 9, Simmons et al. teaches in figures 2-4 the antenna according to claim 8, the conductive wire making a meandering pattern (See col. 2, lines 47-57) such that the vertical portions thereof are substantially equal to the width of the whole radiating element.

Regarding claim 10, Simmons et al. teaches in figures 2-4 the antenna according to claim 1, wherein in the direction of the normal of the radiating element [28, 30] an edge of the ground plane [36] is limited to a certain distance (See FIG. 4) from the radiating element to improve a matching of the antenna.

Regarding claim 11, Simmons et al. teaches in figures 2-4 a foldable radio device comprising a first and a second folding part [22, 20], an antenna [26], and a ground plane [36], outline of a radiating element [28, 30] of the antenna forming a planar figure having a certain width and length, the antenna [26] being located within the first folding part [22] of the radio device, the plane defined by the outline being substantially perpendicular to the ground plane of the radio device (See FIG. 3-4) and the radiating element [28, 30] being coupled to the radio device only by its feed point [40].

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Regarding claim 12, Simmons et al. teaches in figures 2-4 the radio device according to claim 11, the first folding part [22] comprising the radio-frequency parts [28, 30, 34, 36, 38] of the radio device.

4. Claims 1, 3-4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (U.S. Patent No. 6,239, 765).

Regarding claim 1, Johnson et al. teaches in figures 1-5 an antenna, which comprises a ground plane [28], the antenna having at least one resonant frequency and at least one operation band, outline of a radiating element [26] of the antenna forming a planar figure (See FIG. 3) which has a certain width and length, wherein a plane [22] defined by the outline is substantially perpendicular to the ground plane of the radio device (See FIG. 3-4), the width is smaller than internal height of the radio device (See Fig. 1) and the radiating element is coupled to the radio device only by its feed point [32].

Regarding claim 3, Johnson et al. teaches in figures 1-5 the antenna according to claim 1, the radiating element [26] comprising at least one conductive strip [26a-26c] on a surface of a circuit board [22].

Regarding claim 4, Johnson et al. teaches in figures 1-5 the antenna according to claim 3, the conductive strip [26] making a meandering pattern (See FIG. 5) such that the horizontal portions thereof are substantially equal to the whole radiating element in length.

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Regarding claim 7, Johnson et al. teaches in figures 1-5 the antenna according to claim 4, wherein at least one slot [38] between the horizontal portions [26a, 26c] is arranged to radiate in an operation band of the antenna.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons et al. (Cited above) in view of Yanagisawa et al. (EP 0814536 A2).

Simmons et al. teaches every feature of the claimed invention in paragraph 3 except for operation bands.

Yanagisawa et al. teaches in figure 1 operation bands [f1, f2].

In view of the above statement, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the meandering conductive strips as shown in Simmons et al. by using the antenna elements as taught by Yanagisawa et al. in order to have dual-band frequencies.

7. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons et al. (Cited above) in view of Ito et al. (WO 02/19465 A1).

Simmons et al. teaches every feature of the claimed invention in paragraph 3 except for an inductive component; and a capacitive component to tune the resonating frequencies of the antenna.

Ito et al. teaches in figures 49-50 an inductive component [262]; and a capacitive component [272] to tune the resonating frequencies of the antenna.

In view of the above statement, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the meandering conductive strips as shown in Simmons et al. by using the inductive component; and the capacitive component as taught by Ito et al. in order to turn the resonating frequencies of the antenna.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-1819. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Shih-Chao Chen

Shih-Chao Chen
Primary Examiner
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SXC
January 26, 2005